REMARKS

This is in response to the Office Action mailed 2/7/2007. Applicants are appreciative of the Examiner's efforts to identify typographical errors in the patent application. Applicants have hereby made amendments to the specification and the claims as per the Examiner's recommendation in the Office Action of 02/07/2007. This response should obviate outstanding issues and make the remaining claims allowable. Reconsideration of this application is respectfully requested in view of this response/amendment.

STATUS OF CLAIMS

Claims 1-19 are pending.

Should claim 7 be found allowable, claim 9 will be objected under 37 C.F.R. 1.75 as being a substantial duplicate thereof.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over "The Common Object Request Broker", in view of "Algorithms in C".

Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over "The Common Object Request Broker", in view of "Algorithms C" and "Cobra Messaging".

Claims 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over "The Common Object Request Broker" in view of "Algorithms C" and in view of "Design Patterns: Elements of Reusable Object-Oriented Software".

Claim 9 is hereby cancelled.

OVERVIEW OF CLAIMED INVENTION

The presently claimed invention provides for a computer implemented method of creating and managing one or more interceptors, wherein the method comprises the steps of: ***intrinsically chaining*** said interceptors, said interceptor chains made up of dissimilar types of interceptors, ***storing state information***, in at least one of the chained interceptors, directed to a reference to a next interceptor, and providing a unified binding mechanism ***across request level Object Request Broker (ORB) services, message level ORB services, and transports***.

The presently claimed invention also provides for a computer implemented method comprising the steps of creating and managing one or more interceptors, comprising: ***intrinsically chaining*** said interceptors, ***storing state information***, in at least one of the chained interceptors, directed to a reference to a next interceptor, providing callbacks within said interceptor chain, and whereby a request only has to traverse said chain once while allowing interceptors that need to intercept processing at additional points to do so by wrapping a callback interface.

The presently claimed invention also provides a computer implemented method creating and managing one or more interceptors and comprising the steps of: ***intrinsically chaining*** said interceptors into one or more chains, ***storing state information***, in at least one of the chained interceptors, directed to a reference to a next interceptor, applying a flyweight pattern to an Interoperable Object Reference (IOR) representation, said ***flyweight pattern implementing policies which control which chain of interceptors to use at invocation***.

REJECTIONS UNDER 35 U.S.C. §103(a)

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over "The Common Object Request Broker" (hereafter OMG), in view of "Algorithms in C" by Robert Sedgeweck (hereafter, Sedgewick). Claims 6-11 are rejected under 35 U.S.C. §103(a) as being unpatentable over "The Common Object Request Broker", in view of "Algorithms C" and "Cobra Messaging". Claims 12-19 are rejected under 35 U.S.C. §103(a) as being unpatentable over "The Common Object Request Broker" in view of "Algorithms C" and in view of "Design Patterns: Elements of Reusable Object-Oriented Software". Rejections with respect to claim 9 is moot in view of its cancellation via the current amendment.

To establish a prima facie case of obviousness under U.S.C. §103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Additionally, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure (In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

With respect to claim 1, the Examiner on page 5 of the Office Action asserts that OMG teaches claim 1's feature of "intrinsically chaining said interceptors, said interceptor chains mad up of dissimilar types of interceptors". For support, the Examiner cites sections 21-3 and Fig.

21-1 of OMG. Section 21-3 of OMG merely recites the process of establishing a binding between a client and a target object. Applicants respectfully assert the chaining of interceptors in the Examiner's citation and the entire OMG reference, which describes the CORBA specification, involves **extrinsic chaining**.

For clarification, the Examiner is respectfully requested to review page 21, lines 6-9 of Applicants' specification, which specifically addresses this issue and states that:

> "The interceptor *specification in CORBA 2.2 uses extrinsic chaining*, in which an interceptor hands control to the next interceptor by calling **CORBA : : Request : : invoke ( )** , which then calls the next interceptor. The alternative is to chain *interceptors intrinsically, where each interceptor directly invokes the next one*." (emphasis added).

Further, on page 21, line 10, through page 22, line 4 of the Applicants' specification-as-filed, Applicants recite some of the advantages of using intrinsic chaining, which include (but are not limited to): performance gains, flexibility, and adaptability.

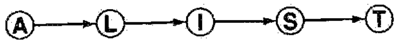
Hence, as Applicants outline in the specification, **OMG uses extrinsic chaining and NOT intrinsic chaining**.

Absent such a teaching, OMG in combination with Sedgewick fails to teach the features of Applicants' claim 1.

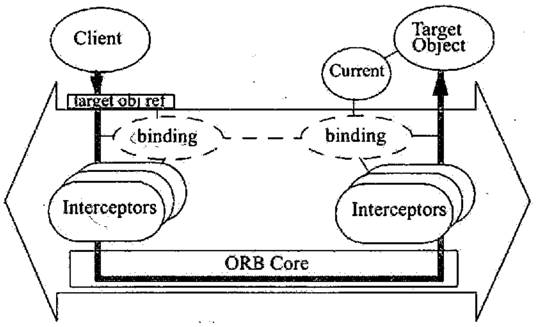
Further, since the OMG and/or Sedgewick references fails to teach intrinsically chaining interceptors, Applicants respectfully assert that it would be moot to argue that OMG and/or Sedgewick references teaches Applicants' feature of intrinsically chaining the interceptors, wherein the interceptor chains are made up of dissimilar types of interceptors.

With respect to claim 1, Applicants agree with the Examiner statement that OMG fails to teach Applicants' feature of storing state information, in at least one of the chained interceptors, directed to a reference to a next interceptor. However, Applicants respectfully disagree with the Examiner that such a lack of teaching is remedied by the Sedgewick reference.

Specifically, the Examiner appears to equate "Linked Lists", which is a well known data structure in computer science, which by Sedgewick's own words is "**a set of items organized sequentially**". Interceptors, by stark contrast, refer to a means to insert functionality into the invocation path between components such as a client and a server component of a CORBA application. The Examiner is urged to look at the Sedgewick's Figure 3.1, which depicts a linked list, and is further respectfully urged to compare it to the Examiner's own citation of OMG's Figure 21-2, which depicts interceptors. For the benefit of the examiner, both Sedgewick's Figure 3.1 and OMG are reproduced below:



Sedgewick's **Figure 3.1**



OMG's **Figure 21-2**

Applicants wish to emphasize that linked lists of **ordered items CANNOT be equated to interceptors**. This is further evidenced by the above-presented figures. It should be noted that the interceptors shown in the Examiner's own citation CANNOT be equated or substituted by linked lists, as they are two disparate entities serving separate functions.

Given that linked lists and interceptors are two separate entities, Applicants also respectfully disagree with the Examiner that such teachings could be combined.

Hence, Applicants respectfully contend that the combination of OMG and Sedgewick fails to teach or suggest Applicants' feature of at least one of the chained interceptors storing state information directed to a reference to a next interceptor.

Absent such a teaching, OMG in combination with Sedgewick fails to teach or suggest the features of Applicants' claim 1.

Also, OMG in combination with Sedgewich fails to teach a **unified binding mechanism across request level Object Request Broker (ORB) services, message level ORB services, and transports**.

Hence, at least for the reasons set forth above, Applicants respectfully assert that the combination of OMG and Sedgewick fail to teach or suggest many of the features of claim 1. Applicants respectfully assert that claim 1 reads over the art of record and is in allowable form.

The above-presented arguments substantially apply towards Applicants independent claims 6 and 12. Hence, Applicants, respectfully assert that claims 6 and 12 also read over the art of record and are in allowable form.

Further, with respect to claim 6, Applicants wish to emphasize that the combination of Sedgewick, OMG, and OMG TC also fail to teach the feature of providing callbacks within the interceptor chain, whereby **a request only has to traverse said chain once while allowing interceptors that need to intercept processing at additional points to do so by wrapping a callback interface**.

Absent such a teaching, OMG in combination with Sedgewick and OMG TC fail to teach or suggest the features of Applicants' claim 6.

Also, with respect to claim 12, Applicants also wish to emphasize that the combination of OMG, Sedgewick, and Gamma fail to teach the feature of applying a flyweight pattern to an

Interoperable Object Reference (IOR) representation, wherein **the flyweight pattern implements policies which control which chain of interceptors to use at invocation**.

Absent such a teaching, OMG in combination with Sedgewick and Gamma fail to teach or suggest the features of Applicants' claim 12.

The above-mentioned arguments with respect to independent claims 1, 6 and 12 substantially apply to dependent claims 2-5, 7-8, 10-11, and 13-19 as they inherit all the features of the claim from which they depend.

Therefore, Applicants respectfully request the Examiner to withdraw the 35 U.S.C. §103 rejections with respect to claims 1-8, 10-19, and further respectfully requests allowance thereof.

SUMMARY

As has been detailed above, none of the references, cited or applied, provide for the specific claimed details of Applicants' presently claimed invention, nor renders them obvious. It is believed that this case is in condition for allowance and reconsideration thereof and early issuance is respectfully requested.

As this response has been timely filed, no request for extension of time or associated fee is required. However, the Commissioner is hereby authorized to charge any deficiencies in the fees provided to Deposit Account No. 50-4098.

If it is felt that an interview would expedite prosecution of this application, please do not hesitate to contact Applicants' representative at the below number.

Respectfully submitted,

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